

CLAIMS

What is claimed is:

1. A system for mounting a motor to a base, comprising:
 - a motor having a motor mounting bracket, a plurality of fastener holes, and a first tooling feature;
 - an assembly fixture having a receptacle that receives the motor, a rim that supports the motor mounting bracket, and a second tooling feature that engages the first tooling feature in the motor mounting bracket;
 - a base having a motor mounting opening and a plurality of fastener holes positioned adjacent to the motor mounting opening; and
 - the assembly fixture aligns and installs the motor in the motor mounting opening of the base such that the motor is secured to the base with fasteners that utilize the fastener holes.
2. The system of claim 1, wherein the first tooling feature is a tooling hole and the second tooling feature is a tooling pin.
3. The system of claim 1, wherein engagement between the first and second tooling features prevents rotation of the motor relative to the assembly fixture.
4. The system of claim 1, further comprising a cable extending from the motor and, upon assembly, the cable is located on an exterior of the base and the motor is located on an interior of the base.

5. The system of claim 1, wherein the motor mounting bracket circumscribes a hub of the motor, the fastener holes of the motor are on one side of the motor mounting bracket, and the first tooling feature is on an opposite side of the motor mounting bracket.
6. The system of claim 1, wherein the motor is manually assembled to the base.
7. The system of claim 1, wherein the motor is automatically assembled to the base by robotic manipulation of the assembly fixture.
8. The system of claim 1, wherein the fasteners mount to the motor from an exterior of the base.

9. A system for mounting a spindle motor to a base of a hard disk drive, comprising:

a spindle motor having an axis, a hub, a motor mounting bracket circumscribing and coaxial with the hub, a plurality of blind threaded screw holes on one side of the motor mounting bracket, a tooling hole on an opposite side of the motor mounting bracket, and a flat cable extending radially from and substantially perpendicular to the axis;

an assembly fixture having an axis, a central aperture concentric with the axis that closely receives the hub of the spindle motor, a rim surrounding the central aperture that supports the motor mounting bracket of the spindle motor, and a tooling pin extending from the rim in an axial direction that engages the tooling hole in the motor mounting bracket and prevents rotation of the spindle motor relative to the assembly fixture;

a base for a hard disk drive, the base having a motor mounting opening with a plurality of screw holes positioned adjacent to the motor mounting opening; and

the assembly fixture rotationally aligns and installs the spindle motor in the motor mounting opening of the base such that the flat cable is located on one side of the base and the hub of the spindle motor is located on an opposite side of the base, and the spindle motor is secured to the base with screws that extend through the screw holes in the base into the blind threaded screw holes in the motor mounting bracket.

10. The system of claim 9, wherein the spindle motor is manually assembled to the base.

11. The system of claim 9, wherein the spindle motor is automatically assembled to the base by robotic manipulation of the assembly fixture.

12. The system of claim 9, wherein the screws mount to the spindle motor from an exterior of the base.